WHAT IS CLAIMED IS:

1. Annuloplasty device usable by a minimally invasive route, in particular for heart valve reconstruction, comprising an implant shaped to be suturable to tissues in order to create the annuloplasty; characterized in that

- the implant (1) has an elongate, deformable structure so that it can assume an elongate shape for insertion into the body of the patient through a small-diameter passage, approximately 1 to 2 cm in diameter, and a curved shape adapted for creating the annuloplasty, and

- the device has a tubular instrument (2) able to receive said implant (1) at least partially within itself, which is sufficiently rigid to allow insertion of implant (1) into the body of the patient through said passage; this instrument (2) has an opening (12, 13) at its distal part enabling access to implant (1) and comprises means (15) for rotationally locking the implant (1) relative thereto, means (15) for holding implant (1) relative thereto, and means for detecting its angular orientation inside the body of the patient.

2. Device according to Claim 1, characterized in that implant (1) has a body (5) with a non-elastic flexible structure, and at least one cord (6) connected to said body (5) in the vicinity of one end of the latter; each cord (6) extends over one lengthwise side of this body (5) up to a location remote from said end, is slidably mounted relative to this body (5) and relative to said location, and has a length such that traction may be exerted thereon once body (5) has been sutured to said tissues; the whole is shaped such that traction can be exerted on each cord (6) to reduce the length of said body (5) by puckering said structure so as to reduce the circumference of implant (1) and hence create the annuloplasty.

3. Device according to Claim 2, characterized in that said body (5) is comprised of a braid of textile material and in that each cord (6) passes inside this braid.

4. Device according to Claim 2, characterized in that the implant (1) has two cords (6) one of which is connected to one end of body (5) and the other to the other end of this body (5) and in that the two cords (6) each extend over substantially half of body (5) up to locations near each other substantially in the median area of this body (5).

5. Device according to Claim 2, characterized in that the instrument (2) has a lateral notch (12) in the vicinity of its distal end that communicates via a slot (14) with a distal opening (13) in this instrument (2), the depth of said notch (12) being such as to uncover the lengthwise side of body (5) that is destined, after the suturing, to be located radially outside the annuloplasty to be created, but such that it covers the lengthwise side of

body (5) destined to be located on the radially inner side of this annuloplasty, namely on the side on which the cord or cords (6) are located.

6. Device according to Claim 5, characterized in that the holding means referred to above are located on either side of notch (21).

7. Device according to Claim 5, characterized in that the instrument (2) has two tubular parts (10, 11) of which the first (10) is engaged in the second (11); said first tubular part (10) has teeth (15) at its distal end that are movable radially between a normal radially outer position in which they allow implant (1) to slide and a radially inner position in which they grip the implant (1) between them and prevent this sliding, said teeth (15) being shaped such that their radially outer faces project, in said normal position, beyond the outer face of said first tubular part (10); the second tubular part (11) can slide axially relative to the first tubular part (10) between a retracted position in which it does not abut said radially outer faces of the teeth, and an active position in which it abuts these radially outer faces, and moves the teeth into their radially inner position.

8. Device according to Claim 1, characterized in that the body (5) of implant (1) has, viewed transversally, a tubular part (5a) and a flat part (5b) extending radially relative to said tubular part (5a); the instrument (2) has a tubular part (10) that has a lateral slot (20) provided in its distal part, and has a rod (21) that can be engaged in this tubular part (10); said tubular part (5a) of the body of the implant is engaged inside said tubular part (10) of instrument (2) and receives said rod (21) therein while said flat part (5b) passes through said slot (20) and extends outside said tubular part of the instrument (2).

9. Device according to Claim 8, characterized in that the instrument (2) has two tubular parts, namely the tubular part (10) referred to above and an outer tubular part in which the aforesaid tubular part (10) and the implant (1) placed therein are engaged.

10. Device according to Claim 8, characterized in that the portion of said flat part (5b) of the implant body extending beyond instrument (2) has means (30) for attaching the implant to the tissues, which are pre-positioned on said part.

11. Device according to Claim 8, characterized in that the attaching means are comprised of suture threads (30) and in that the implant (1) has, opposite each suture thread (30), at least one reel (22) mounted thereon, onto which suture thread (30) is wound.

12. Device according to Claim 1, characterized in that the suture threads (30) pass through said flat part (5b) and in that the instrument has a reel (22) on each of its sides located on either side of said flat part (5b), each of reels (22) receiving one of the two strands of suture thread (30).

13. Device according to Claim 1, characterized in that the implant has an elastic structure and has the aforementioned curved shape in the non-deformed state of this structure, this implant being deformed elastically when it is engaged in the instrument, then returns to its curved shape as it is dispensed by the instrument.

14. Device according to Claim 1, characterized in that the implant is made of a shape-memory alloy such as a nickel-titanium alloy known as Nitinol.